

REMARKS/ARGUMENTS

Applicants submit this response to the Office Action dated April 23, 2009. Claims 1-44 remain pending. Claims 11, 14, 18, 19, 23, 35, 38, 39, 42, and 43 are amended. Reconsideration of the application in view of the foregoing amendments and following remarks is respectfully requested.

Claim Objections

Claims 1, 18, and 23 were objected to because these claims recited "ofCDM." Claims 1, 18, and 23 have been amended to insert a space such that these claims now recite "of CDM." Claims 38 and 42 have been similarly amended.

Claim Rejections – 35 USC § 102, Schilling

Independent Claims 11, 16, 18, 20, 23, 33, 36, 38, 40, 42, and 44 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Schilling et al., USPN 6,061,359 (hereinafter "Schilling"). Applicant respectfully submits that "anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim." *In re King*, 801 F.2d 1324, 1327 (Fed. Cir. 1986). "The elements must be arranged as required by the claim" M.P.E.P. § 2131. Further, Applicant respectfully submits that the Examiner bears the burden of presenting a *prima facie* case of anticipation. See M.P.E.P. § 2121; *In re King*, 801 F.2d at 1327.

Claim 11 refers *inter alia* to

a first encoder for receiving the plurality of symbol streams and encoding each of the symbol streams with one of a plurality of covering sequences to form a plurality of covered sequences;

a summer for summing the plurality of covered sequences to form a CDM signal;

a time multiplexer for receiving the plurality of covered CDM signals and forming a Time Division Multiplexed (TDM) signal comprising the plurality of covered CDM signals;

and a second encoder for covering the TDM signal with a covering sequence to form a covered TDM/CDM signal configured for transmission in CDM fashion.

Claims 18 and 23 recite similar limitations. Applicant respectfully submits that the Examiner has not established a *prima facie* case of anticipation with respect to Schilling for these claims.

In the Office Action, the Examiner alleged that the “first encoder” is shown by elements 51, 52, 58, 151, 152, and 158 of Figure 3 of Schilling; that the “summer” is shown by elements 45 and 145 of Figure 3; and that the “second encoder” is shown by elements 48 and 148 of Figure 3. The Examiner further cited Table 4 of Schilling, stating that “Duplex method is TDD and Multiple access method is CDMA thus transmitted as TDD/CDM signal.” As described in prior responses, the Examiner has not pointed to any elements of Schilling that show a “time multiplexer.” Instead, the Examiner is relying on the listing of “Time Division Duplex” in Table 4 as showing this element.

Applicant respectfully submits that even if the Examiner’s arguments regarding the “first encoder,” the “summer,” and the “time multiplexer” are accepted—Applicant does not herein concede that the Examiner’s characterizations of the claim elements with respect to Schilling are accurate—the Examiner has still failed to show the “second encoder for covering the TDM signal with a covering sequence to form a covered TDM/CDM signal,” as recited in Claim 11. Applicant described in the previous response that in-phase multiplier device 48 and quadrature-phase multiplier device 148, illustrated in Figure 3 of Schilling, do not cover a TDM signal with a covering sequence, and that Schilling does not describe that either in-phase multiplier device 48 or quadrature-phase multiplier device 148 utilize a covering sequence, as is required by Claim 11. The Examiner did not respond to these comments submitted by Applicant in the response to the previous Office Action.

Instead of responding to Applicant’s traversal of the rejection of Claim 11 in view of Schilling in the previous response, the Examiner again pointed to Table 4. The Examiner has not, however, pointed to any description in Schilling that describes covering a “TDM signal with a covering sequence to form a TDM/CDM signal,” as recited in Claim 11. At most, the Examiner has described the “first encoder” and

“summer for summing the plurality of covered sequences to form a CDM signal,” and the “time multiplexer for receiving the plurality of covered CDM signals and forming a Time Division Multiplexed (TDM) signal” (again, Applicant is not conceding that the Examiner’s characterizations of the claim elements with respect to Schilling are accurate). These elements would correspond to the “CDMA” and the “Time Division Duplex” of Table 4. The Examiner has cited no description from Schilling, and has given no other reason, describing why the “CDMA” listed in Table 4 would be interpreted to disclose a CDM signal other than the CDM signal which the Examiner purports is created by elements 45 and 145 of Figure 3 (which the Examiner alleges correspond to the “summer” of Claim 11). Thus, the Examiner has not shown that Schilling discloses every element of Claim 11, and thus has not established a *prima facie* case of anticipation with respect to Schilling for Claims 11, 18, and 23. Applicant respectfully submits that Schilling does not disclose all of the elements of these claims.

Claim 33 refers *inter alia* to “summing subsets of the plurality of covered sequences to form a plurality of CDM signals; time division multiplexing the plurality of CDM signals to form a TDM signal; and covering the first TDM signal with a covering sequence to form a covered TDM/CDM signal.” **Claim 42** recites similar limitations. **Claim 38** refers *inter alia* to “means for summing subsets of the plurality of covered sequences to form a plurality of CDM signals; means for time division multiplexing the plurality of CDM signals to form a TDM signal; and means for covering the first TDM signal with a covering sequence to form a covered TDM/CDM signal.”

Applicant respectfully submits that the Examiner has not established a *prima facie* case of anticipation with respect to Schilling for Claims 33, 38, and 42. The Examiner cited the same elements and used the same reasoning to reject these claims as was used to reject Claims 11, 18, and 23. As described above, the Examiner has not shown that Schilling discloses at least “covering the first TDM signal with a covering sequence to form a covered TDM/CDM signal,” nor has the Examiner shown the Schilling discloses at least “means for covering the first TDM signal with a covering sequence to form a covered TDM/CDM signal.” Applicant respectfully submits that Schilling does not disclose at least these elements.

Claim 16 refers *inter alia* to “a CDM signal, covered with a first covering sequence, comprising one or more TDM signals, each of the one or more TDM signals comprising one or more sub-CDM signals, . . . a receiver for receiving the CDM signal; a first despreaders for despread the received CDM signal with the first covering sequence to produce a despread CDM signal;” and “a demultiplexer for selecting one of the TDM signals from the despread CDM signal.” **Claim 20** recites similar limitations.

In the Office Action, the Examiner stated that in Figure 4 of Schilling, “antenna 77 receives signal as coded by Fig. 3.” As described above, Schilling does not describe “a CDM signal, covered with a first covering sequence, comprising one or more TDM signals, each of the one or more TDM signals comprising one or more sub-CDM signals.” Further, Applicant respectfully submits that Schilling does not describe structure to receive and despread such signal, for example the “first despreaders” and the “demultiplexer for selecting one of the TDM signals from the despread CDM signal,” as recited in Claim 16.

Claim 36 refers *inter alia* to “receiving a CDM signal; despread the received CDM signal with a first covering sequence; time demultiplexing the despread received CDM signal to select a TDM signal; and despread the selected TDM signal with a second covering sequence.” **Claim 44** recites similar limitations. **Claim 40** refers *inter alia* to “means for receiving a CDM signal; means for despread the received CDM signal with a first covering sequence; means for time demultiplexing the despread received CDM signal to select a TDM signal; and means for despread the selected TDM signal with a second covering sequence.”

Applicant respectfully submits that Schilling does not disclose all of the elements of Claims 36, 40, and 44. The Examiner used similar reasoning to reject these claims as was used to reject Claims 16 and 20. Applicant respectfully submits that the Examiner has not shown that Schilling discloses at least “time demultiplexing the despread received CDM signal to select a TDM signal,” and further submits that Schilling does not describe at least this element.

In view of the above, Applicant respectfully submits that independent Claims 11, 16, 18, 20, 23, 33, 36, 38, 40, 42, and 44 are allowable over the prior art of record. Claims 12-13, 24, and 34 are dependent claims that depend ultimately from independent

Claims 11, 23, and 33, respectively, and therefore incorporate all of the limitations of the parent claim from which they depend. For at least these reasons, therefore, Applicant respectfully submits that these claims are also allowable over the prior art of record.

Claim Rejections – 35 USC § 102, Tiedemann

Independent Claims 14, 19, 35, 39, and 43 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tiedemann, Jr. et al., USPN 5,914,950 (hereinafter “Tiedemann”). Applicant respectfully traverses these rejections.

Claim 14, as amended, refers *inter alia* to “a CDM signal, covered with a first covering sequence, comprising two or more sub-CDM signals, each of the two or more sub-CDM signals comprising a plurality of symbol sequences for reception by respective ones of a plurality of mobile stations,” and “a decoder for extracting the recovered symbol sequence from the plurality of symbol sequences for reception by respective ones of a plurality of mobile stations, the recovered symbol sequence being directed to the respective one of the mobile stations.” **Claim 19**, as amended, recites similar limitations.

In the Office Action, the Examiner pointed to element 40 in Figure 4 of Tiedemann as showing the “first despreader.” The Examiner pointed to text in column 7 of Tiedemann as describing the “second despreader.”

As described in prior responses, Tiedemann concerns a method and apparatus for reverse link scheduling in a cellular telephone system. Column 7 describes that channel element 40 is located at base station 4. *See* col. 7, ll. 9-13. Base station 4 receives a signal from remote station 6, which signal is demodulated with the channel element 40. *See* col. 7, ll. 13-21. The signal from the remote station 6 may be a high speed data transmission to the base station 4. *See* col. 6, ll. 40-42.

Applicant respectfully submits that the signal transmitted by the remote station 6 and received by the base station 4 will not comprise “a CDM signal, covered with a first covering sequence, comprising two or more sub-CDM signals, each of the two or more sub-CDM signals comprising a plurality of symbol sequences for reception by respective ones of a plurality of mobile stations.” For example, the signal transmitted by the remote station 4 will not comprise a plurality of symbol sequences for reception by respective ones of a plurality of mobile stations. As described in the previous response, the signal is

for reception by the base station 4, not for reception by respective ones of a plurality of mobile stations. Even when several base stations receive the signal transmitted by the remote stations 4, for example during handoff, the signal will not comprise a plurality of symbol sequences for reception by respective one or a plurality of mobile stations. Further, Applicant respectfully submits that Tiedemann discloses neither “a decoder” nor a “recovered symbol sequence being directed to the respective one of the mobile stations,” as recited in Claims 14 and 19.

Claim 35, as amended, refers *inter alia* to “receiving a CDM signal, covered with a first covering sequence, comprising two or more sub-CDM signals, each of the two or more sub-CDM signals comprising a plurality of symbol sequences for reception by respective ones of a plurality of mobile stations,” and to “extracting the decoded symbol sequence from the plurality of symbol sequences for reception by respective ones of a plurality of mobile stations, the decoded symbol sequence being directed to the respective one of the mobile stations.” **Claim 43**, as amended, recites similar limitations. **Claim 39**, as amended, refers *inter alia* to “means for receiving a CDM signal, covered with a first covering sequence, comprising two or more sub-CDM signals, each of the two or more sub-CDM signals comprising a plurality of symbol sequences for reception by respective ones of a plurality of mobile stations covered by a second plurality of covering sequences, respectively,” and “means for extracting the decoded symbol sequence from the plurality of symbol sequences for reception by respective ones of a plurality of mobile stations, the decoded symbol sequence being directed to the respective one of the mobile stations.”

Applicant respectfully submits that Tiedemann does not disclose all of the elements of Claims 35, 39, and 43. The Examiner cited the same elements and used the same reasoning to reject these claims as was used to reject Claims 14 and 19. As described above, Tiedemann does not disclose at least “receiving a CDM signal . . . comprising a plurality of symbol sequences for reception by respective ones of a plurality of mobile stations,” nor does Tiedemann disclose means for such receiving. Further, Applicant respectfully submits that Tiedemann does not disclose at least extracting a “decoded symbol sequence being directed to the respective one of the mobile stations,” nor means for such extracting.

In view of the above, Applicant respectfully submits that independent Claims 14, 19, 35, 39, and 43 are allowable over the prior art of record. **Claim 15** is a dependent claim that depends from independent Claim 14, and therefore incorporates all of the limitations of Claim 14. For at least these reasons, therefore, Applicant respectfully submits that Claim 15 is also allowable over the prior art of record.

Claim Rejections – 35 USC § 103

Independent Claims 1, 17, 21, 25, 37, and 41 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tiedemann in view of Ho et al., USPN 6,751,264 (hereinafter “Ho”). Applicant respectfully submits that to establish a *prima facie* case of obviousness, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974).

Claim 1 refers *inter alia* to “a first encoder for receiving a plurality of symbol streams for respective ones of a plurality of mobile stations and encoding each of the symbol streams with one of a plurality of covering sequences to form a plurality of covered sequences.” Claims **17** and **21** recite similar limitations.

In the Office Action, the Examiner pointed to elements 146 and 148 of Figure 5 of Tiedemann as showing the “first encoder,” and stated that “Col. 26, lines 40-50 describe each encoder is for a different channel thus plurality of encoders are associated with a plurality of devices.” Applicant respectfully disagrees.

Tiedemann describes a modulator 74 in the remote station 6. *See* col. 6, ll. 54-58. The modulator 74 comprises a plurality of Walsh modulators 146 and 148 assigned to receive outputs from a plurality of BPSK and QPSK channel encoders 104 and 106. *See* col. 26, ll. 40-45. Each pairing of a channel encoder with a Walsh modulator is referred to as a secondary code channel. *See* col. 26, ll. 45-50. The remote station 6 may communicate with a cell 2 using multiple secondary channels via the corresponding base station 4 of that cell. *See* col. 5, l. 65 – col. 6, l. 5, col. 24, ll. 1-29. Thus, the data being encoded using the secondary channels are all for the base station 4, not “for respective ones of a plurality of mobile stations,” as recited in Claims 1, 17, and 21. Thus, Tiedemann does not disclose at least the elements of Claims 1, 17, and 21 recited above.

In the Office Action, the Examiner cited Ho as teaching “a selector for selecting the summer from among a plurality of summers.” The Examiner did not allege that Ho teaches “a first encoder for receiving a plurality of symbol streams for respective ones of a plurality of mobile stations and encoding each of the symbol streams with one of a plurality of covering sequences to form a plurality of covered sequences.” As described in the previous response, Ho concerns a digital FM receiver having multiple antennas, where signal pairs can be received using the antennas and the stronger of the received signals can be selected. Applicant respectfully submits that Ho does not teach at least the “first encoder” as recited above. Thus, Applicant respectfully submits that neither Tiedemann nor Ho, alone or in combination, teaches nor would have made obvious all of the claim limitations of Claims 1, 17, and 21.

In view of the above, Applicant respectfully submits that independent Claims 1, 17, and 21 are allowable over the prior art of record. Claims 2-10 and 22 are dependent claims that depend ultimately from independent Claims 1 and 21, respectively, and therefore incorporate all of the limitations of the parent claim from which they depend. For at least these reasons, therefore, Applicant respectfully submits that these claims are also allowable over the prior art of record.

Claim 25 refers *inter alia* to “covering each of a plurality of symbol streams for respective ones of a plurality of mobile stations with one of a plurality of covering sequences to form a plurality of covered sequences.” **Claim 41** recites similar limitations. **Claim 37** refers *inter alia* to “means for covering each of a plurality of symbol streams for respective ones of a plurality of mobile stations with one of a plurality of covering sequences to form a plurality of covered sequences.”

Applicant respectfully submits that Tiedemann does not disclose all of the elements of Claims 25, 37, and 41. The Examiner cited the same elements and used the same reasoning to reject these claims as was used to reject Claims 1, 17, and 21. As described above, Tiedemann does not disclose at least “covering each of a plurality of symbol streams for respective ones of a plurality of mobile stations with one of a plurality of covering sequences to form a plurality of covered sequences,” nor does Tiedemann disclose means for such covering. Further, Applicant respectfully submits that Ho does not teach at least these claim elements. Thus, Applicant respectfully

submits that neither Tiedemann nor Ho, alone or in combination, teaches nor would have made obvious all of the claim limitations of Claims 25, 37, and 41.

In view of the above, Applicant respectfully submits that independent Claims 25, 37, and 41 are allowable over the prior art of record. Claims 26-32, are dependent claims that depend ultimately from independent Claim 25, and therefore incorporate all of the limitations of the parent claim from which they depend. For at least these reasons, therefore, Applicant respectfully submits that these claims are also allowable over the prior art of record.

Allowable Subject Matter

The Office Action stated that Claims 8 and 9 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants are grateful to the Examiner for noting the allowability of these claims, and respectfully submit that Claims 8 and 9 may also be allowable for reasons other than those discussed in the Office Action.

CONCLUSION

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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